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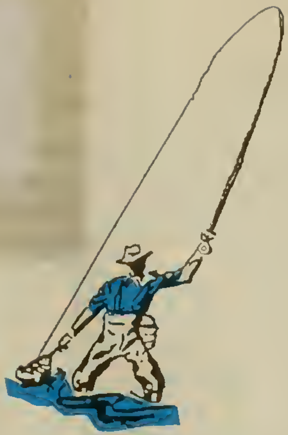

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FISHING LOG NEWSLETTER

ANNUAL EDITION
JANUARY 2003

Publication of:
Montana Fish, Wildlife & Parks

STATE
COLLECT
2004
1515 E. 6th

2000-2001 Fishing statistics, pg 12-13

Fish, Wildlife & Parks photo

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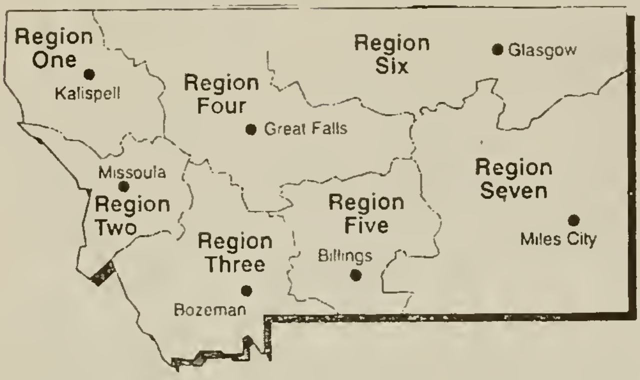
MONTANA REGIONAL UPDATES



REGION ONE - KALISPELL

Access and native fish management will largely determine the direction of fishery management in northwest Montana and to some extent much of the state in the next decade. Region One has a fair amount of publicly-owned access on its 450 lakes and 3,000 plus miles of stream. However, in many cases the only access to some waters is privately owned. Increasing use and changes in ownership have combined to close access to some popular waters. Plum Creek Timberlands owns over 800,000 acres and has generously allowed free hunting and fishing access over the years. However, as Plum Creek has refocused its timber operations it has offered some properties for sale including stream and lake frontage. New owners have typically posted their land. Fish, Wildlife & Parks took the lead in obtaining a conservation easement in the key Thompson and Fisher River drainages. The easement will purchase the subdivision rights and guarantee public hunting and fishing access while allowing ongoing timber management, essentially maintaining the status quo in perpetuity. The easement is now about two-thirds completed. FWP has also purchased several Plum Creek sites for access as well as working with the Montana Department of Natural Resources to assist in keeping important DNRC sites open to public use.

Another gratifying program is the Family Fishing Program which establishes safe, accessible fishing opportunities near population centers by working with city and county governments and private landowners. Taking a fresh look at some marginal waters overlooked for years, FWP has established short-term fisheries with catchable trout where kids can access on foot or by bicycle or Mom and Dad can bring the kids in the evening when there's only an hour to spare. Family ponds have now been established in Kalispell, Whitefish, Eureka and Troy with more being planned. The ponds do take some work to deal with litter, safety and sanitation but the response has been overwhelming and the sight of families fishing together is truly gratifying. The program has blended nicely with the "Hooked on Fishing, Not on Drugs" program aimed at 4th graders. The program is a year-long effort, blending several field (fishing) trips with classroom work in math, writing, science and art. Teachers point out some kids blossom in the program and the level of parent participation (particularly dads) is the highest of any program they have. The demand is overwhelming with 1,800 students in over 80 classrooms in northwest Montana alone. Those kids are the future of fishing. One fun program last year was the State Fish Art Contest with artwork and a composition on cutthroat trout. Region One ran a local contest with prizes and then forwarded the entries to the national contest. All of the Montana winners came from northwest Montana. If you want to see some great artwork, click on www.statefishart.com.

Another program just getting rolling is the Private Lands Angling Access (PLAA) program. Created by the 2001 Legislature, PLAA provides assistance and incentives to landowners to deal with the issues of public fishing use on their lands such as signing, fence and road maintenance, litter pickup and sanitation. Hopefully, this ounce of prevention will head off closure of many important sites.

Region One jumped into native fish management more than 50 years ago with the closure of several bull trout spawning tributaries in the North Fork Flathead drainage. Years of careful stewardship have paid dividends since Region One now has some of the strongest populations of westslope cutthroat and bull trout in the lower 48. There's still much work to be done since native fish have declined range wide due to habitat loss, impacts of non-native fish, decreased water quality and overfishing. White sturgeon (endangered) and bull trout (threatened) have been listed under the Endangered Species Act (ESA) and westslope cutthroat and redband rainbow have been petitioned for listing. Listing places the species under federal supervision and the state has to consult with the U.S. Fish and Wildlife Service on any changes that might affect the fish. Montana has argued (unsuccessfully in some cases) that our fish populations are distinct populations and are healthy enough to not warrant listing. FWP recently completed an environmental analysis and decision notice that said bull trout in Hungry Horse Reservoir and the South Fork Flathead River are healthy enough to support reopening limited recreational fishing. Lake Koocanusa is another likely candidate (one Koocanusa tributary had 1,900 redds or spawning beds this fall representing 4,000 to 6,000 spawners!).

This decision has been passed on to the U.S. Fish and Wildlife Service in hopes they can amend the ESA rules and okay renewed fishing. Reopening fishing would reward anglers for their past sacrifices and show that support for conservation can rebuild populations and restore opportunity.

Steps to restore native fish can be controversial. The recently completed Flathead Drainage Co-management Plan (with Confederated Salish and Kootenai Tribe) favored increasing native bull and westslope cutthroat while decreasing non-native lake trout, lake whitefish and yellow perch. In the Flathead River, rainbow trout have been barred from entering spawning streams by trapping and transplanting them to nearby ponds. A major proposal is to remove non-native rainbow and Yellowstone cutthroat from about two dozen mountain lakes in the South Fork Flathead/Bob Marshall Wilderness. While this is obviously controversial and a huge undertaking, it offers the potential to protect what may be the largest remaining intact westslope cutthroat/bull trout population in the U.S.

Both because the state has an obligation to protect its natural resource heritage and also in part to keep fish management under state control, many of the state priorities for project selection are heavily weighted toward native fish.

Recreational anglers sometimes grumble they are shorted by the process. FWP does have a dual mission to conserve native fish and provide recreational fishing. Sometimes that requires tough choices. But FWP still puts significant investments into the state's renowned recreational fisheries.

On a related note, many of the recreational lake fisheries in Region One are heavily supplemented with hatchery trout and salmon. R-1 has escaped some of the worst affects of the drought pummeling the rest of the state but all the state fish hatcheries rely on springs or groundwater. Two hatcheries, Jocko River Trout Hatchery at Arlee and the Murray Springs State Fish Hatchery near Eureka have suffered from drastically reduced water supplies. This has reduced the number of fish produced or required earlier stocking with possibly lower survival. Even if the drought breaks now (which doesn't look too hopeful in December) the impacts will show up in fewer fish in some popular fishing holes for the next few years.

SUPER SALMON?

In the late 1960's Montana and other western states and provinces planted *Mysis* (opossum) shrimp in many lakes in hopes of producing four pound *Mysis*-eating kokanee like those found in Kootenay Lake, B.C. Too late, fish managers found that Kootenay Lake was a fluke and in several cases very visible kokanee fisheries like Flathead, Whitefish and McGregor lakes crashed. There's a complex relationship between *Mysis*, lake trout abundance and feeding behavior, and kokanee foraging and predator-prey responses. In lakes without lake trout, kokanee persisted but decreased in size due to food competition with *Mysis*.

Several years ago, biologists noticed a small percentage of outsized fish (18"-22") showing up amongst the typical 9"-11" salmon. Savvy anglers figured out they could fish near bottom in 90'-120' of water as opposed to the usual 20'-30' depths and catch a higher percentage of outsized salmon. Stomach analysis confirmed the big salmon were feeding near bottom on *Mysis* rather than the pin-head size zooplankton up in the water column. Talks with other biologists at the 28th International Kokanee Workshop held in Kalispell last spring revealed they too were seeing some lunkers in their fisheries. The tantalizing question is – is this learned behavior by a few fish or does it show genetic adaptation over 40 years to tap into a great food source – and will anglers finally get their 4-pound kokanee?

Northern Pike caught by Jack Hinkle, 5/24/02
46", 23" girth, 29.78 lbs. on ½ oz. spoon
Flathead River Slough

REGION TWO - MISSOULA

Efforts to improve fish passage and reduce fish losses to irrigation ditches planned for around the region. Many of the projects are slated to begin in the next year or two. Projects are implemented in coordination with landowners, irrigation companies, funding sources, State, Tribal, and Federal agencies and Trout Unlimited. Some of the projects involve work at Meyer's Dam in Warm Springs Creek near Anaconda, Dunham Creek in the Blackfoot River drainage, and Skalkaho Creek in the Bitterroot River drainage. These projects will significantly improve survival of native and sport fishes. Major funding for these projects is from the U.S. Fish and Wildlife Service and Montana Fish, Wildlife and Parks.

The status of whirling disease is being monitored in the Region. Whirling disease has increased in distribution and intensity in the Blackfoot River drainage and the upper Bitterroot Drainage. Data from Rock Creek is being compiled. So far, information suggests little impact to species-specific fish populations or fisheries. In the event that fish populations are reduced, progressive native fish management in the form of habitat restoration and restrictive regulations promises to provide resiliency for fisheries with whirling disease. Native fish are less susceptible to whirling disease because of natural resistance, habitat use, and timing of spawn, hatch, and early rearing.

An important project on Rattlesnake Creek will improve native and sport fisheries. Fish passage around a dam will increase the number of adults returning to spawn in their natal streams. The dam is low in the drainage (about 5 miles from the mouth) and owned by Mountain Water Company. Proposed is a natural, step-pool channel around the dam. A test ladder and trap has shown that passage is feasible. This project is particularly important for bull trout and westslope cutthroat trout that spawn and rear in upper tributaries.

Rattlesnake Creek is a unique fishery. It flows from the Rattlesnake Wilderness through residential areas and into downtown Missoula where it meets the Clark Fork River. The creek also supports recreation such as hiking, bicycling, and horseback riding in a beautiful setting. To restore native fishes and provide excellent recreational fishing in a highly used, partially urban water will help promote the type of work FWP does in many other, less visible waters. Cooperators on the project include Trout Unlimited, Bureau of Reclamation, and Mountain Water Company.

Mountain Water Company Dam (in background) on Rattlesnake Creek. Test fish trap is to the right. Trap is a Denil ladder entering a stock tank where the fish are held. Water is siphoned from above the dam.

The Upper Clark Fork River is at a crossroads in its history. Possible Environmental Protection Agency (EPA) actions in the Upper Clark Fork and at Milltown Dam will influence the future of the fisheries of the Blackfoot and Clark Fork Rivers and many tributaries such as Rock Creek. Cleanup and stabilization of toxic sediments in the Upper Clark Fork and removal of Milltown Dam and toxic sediments would be a great benefit to area fisheries. The geographic scale of this improvement would be beyond any that Montana has seen.

Milltown Dam during a reservoir drawdown in the summer of 2002. The drawdown was done by EPA to test the feasibility of removing sediments at lower water levels and release of sediments downstream.

Drought was lacking in Region 2 during 2002 with mostly above average precipitation. The Upper Clark Fork had the least precipitation and the Middle Clark Fork towards St. Regis the most. Despite above average precipitation, most rivers and streams were at or just below average as result of past droughts and the refilling of aquifers. Impacts to fisheries have been mixed depending on species involved and the hydrology of specific drainages. Where impacts have occurred we expect below normal recruitment of young fish into populations. We will be monitoring the effects of poor recruitment on fish populations.

REGION THREE - BOZEMAN

EVEN DROUGHT HAS A SILVER LINING

It is no secret that drought has been the watch-word for southwest Montana's blue ribbon trout streams, lakes and reservoirs. You'll seldom hear a biologist or angler heretically wishing for drought over abundant flows, but every cloudless sky has a silver lining. In the Madison and Gallatin drainage, a few ironic benefits have come with drought.

The West Gallatin River, as it careens through the canyon it carved is a cold, cold place. Under sub-zero temperatures, it freezes from the bottom up. This "anchor icing" is the chief grim reaper of trout in the Gallatin, entombing young fish and crushing them as they attempt to wait out bitter winters. In mild winters, mortality of young fish decreases, and the population thrives.

Similarly, low snowpack means less runoff with lower peaks. When the spring floods come, rainbow trout are still incubating in the gravels of the Gallatin, or just emerging. If runoff comes on fast and hard, trout larvae and fry tend to be flushed to oblivion. The drought simply improves a young rainbows chance of surviving to spawn.

When temperatures peak in late July and early August, many trout populations are severely thermally stressed. But life in the upper Gallatin somewhat improves. Water temperatures stay cool enough in the canyon to limit trout growth in most years. Hot, dry summers bring water temperatures up to where trout grow faster in the Gallatin. Unfortunately, this is a short-lived benefit. When more fish are crowded into less space, other factors trim populations back to meet reduced carrying capacity. Predators (including anglers) find proverbial barrels of fish. Disease is also more easily transferred between crowds.

All in the Gallatin is not well. Below the canyon, the West Gallatin is the fuel for a substantial agricultural industry. In drought years, the river is severely dewatered before it arrives at the East Gallatin. Trout populations in the valley bottom pay the price during drought, riding a wild roller coaster between wet and dry years. The East Gallatin River suffers drought measurably. While loaded with rainbows in past years, low flows and crowding have bumped the population back to lower levels, trimming off the older, sicker, and weaker fish.

Dams, like drought. are two-edged swords. They have a generally detrimental impact to a river system but provide benefits in other aspects. Two Madison River dams, Hebgen and Madison Dam at Ennis, work together to generate electricity. During the drought, they have worked together to moderate the impacts of drought. The first and most obvious role of Hebgen is storage. Hebgen Reservoir stored limited runoff and PPL Montana carefully metered it out throughout the summer, meeting minimum flow requirements. The river and its inhabitants were treated to decent flows in spite of regional drought. Another role the reservoirs played was to moderate Ennis Lake's notorious reputation for warming the lower Madison to near lethal levels. In the past several drought years, PPL Montana has sent pulses of higher flows from Hebgen in time to keep afternoon water temperatures below Ennis from reaching lethal levels. No thermal fish kills have been recorded lately, in spite of years of cumulative drought.

Drought is like a visiting in-law that forgot to go home. Persistent, cumulative drought is perhaps the major factor affecting our fisheries of late. Few want it to stay, but stay it may. If it does, keep up the rain dance and look for the silver lining. At least some fisheries may find a way to squeeze something good out of a parched sponge.

WESTSLOPE CUTTHROAT TROUT CONSERVATION & RESTORATION

FWP, the U.S. Forest Service, and the Sun Ranch, LLC, are cooperating in an effort to develop a westslope cutthroat trout (WCT) broodstock for the upper Missouri River Drainage, including the Madison River Drainage. The Sun Ranch has constructed and operates a small hatchery and rearing pond. Gametes are collected from wild WCT populations and transported to the Sun Ranch for hatching and rearing. After broodstock development, eggs and possibly fry will be used to seed streams to expand the range and preserve the genetic diversity of WCT. In 2001, the initial year of the program, over 350 fry were placed in the rearing pond, but a record-keeping error resulted in over 100 of those being hybrid fry. In February 2002, FWP conducted an eradication treatment of the pond using the fish toxicant antimycin (brand name Fintrol). Albino rainbow trout were acquired from Ennis National Fish Hatchery and used as sentinel fish to measure the effectiveness of the treatment, and to monitor downstream effects of the treatment. All 35 sentinel fish in the pond died due to antimycin toxicity (photo 1) while none of the nine fish downstream of the pond died or showed effects of antimycin toxicity. Fish downstream of the pond were left in place until April 24.

In September 2002, nearly 600 genetically pure WCT fry were placed in the rearing pond.

Generator and peristaltic pump being used to apply fintrol to the Sun Ranch Pond.

Table Sun 1. Water chemistry conditions and fate of sentinel albino rainbow trout held in minnow cages during and after antimycin treatment of the Sun Ranch Pond. All sentinel fish were deployed February 23, and the treatment was conducted on February 28. (Next page)

Cage	date	No. fish	live/dead	water pH	water temp.
Outlet	2/28/02	9	9/0	N/A	N/A
	3/1/02	9	9/0	N/A	N/A
	3/6/02	9	9/0	N/A	N/A
	3/8/02	9	9/0	7.3	40
	3/20/02	9	9/0	8.1	40
	4/24/02	9	9/0	7.6	N/A
Pond –north cage	2/28/02	10	10/0	8.5	34
	3/1/02	10	4/6	N/A	N/A
	3/6/02	10	0/10	8.2	34
Pond – mid cage	3/6/02	13	0/13	8.2	34
Pond – south cage	2/28/02	12	12/0	8.5	34
	3/1/02	12	10/2	N/A	N/A
	3/6/02	12	0/12	8.2	34

CHERRY CREEK NATIVE FISH INTRODUCTION PROJECT

In March 2002, The Montana First Judicial District Court, Lewis & Clark County, denied the litigants petition against the Cherry Creek Native Fish Introduction Project, clearing the way for the project to begin in August 2002. In June 2002, the litigants filed a 60-day Notice of Intent to Sue in Federal Court, naming FWP, Montana Department of Environmental Quality, The U.S. Forest Service, and the Environmental Protection Agency. Due to the potential legal challenge, FWP decided not to proceed with the project in 2002. The litigants did not file the lawsuit in 2002.

NEW ZEALAND MUDSNAILS

Samples collected by the PPL Montana Water Quality Monitoring Program in August, 2001, documented the arrival of the New Zealand Mudsnail (NZMS) in the lower Madison River near the Norris Bridge. Previously, NZMS were known to exist only in the upper Madison River above Raynolds Pass Bridge and in Darlinton Ditch along the lower Madison River. Over 70 river miles separated these two populations. The population detected in the lower river is only a few miles upstream of the Darlinton Ditch head gate, where NZMS were documented in June 2000.

The Cobblestone FAS was closed to all public use in 2000 in an effort to eliminate the inadvertent spread of the NZMS from that location. Preliminary studies by MSU personnel at Darlinton Ditch indicate many functional groups of aquatic invertebrates have significantly lower densities in the area the snail has invaded compared to where it hasn't invaded. Taxa that show significantly lower densities in the presence of the snail include Chironomidae and Baetidae, which show the largest decrease.

Bioassays were conducted to fulfill the conditions of the July 2001 Decision Notice regarding treatment of Darlinton Ditch to eradicate NZMS. Bayluscide killed 100 percent of test snails exposed to at least 48 exposure units of Bayluscide. An exposure unit is attained by multiplying the Bayluscide concentration in mg/l (ppm) by the number of hours of exposure, so 4 mg/l x 12 hours of exposure = 48 exposure units. However, bioassays also showed that potassium permanganate was not effective in neutralizing Bayluscide. A potassium permanganate concentration of about 2 mg/l is effective in neutralizing the fish control pesticides rotenone and antimycin relatively quickly. However, significant neutralization of 4 mg/l Bayluscide did not occur until 24 hours of exposure to 50 mg/l potassium permanganate.

An additional factor that required consideration was the previously mentioned detection of NZMS in the Madison River near the Norris Bridge, only a few miles upstream of the Darlinton Ditch headgate. These NZMS were found in samples collected in August 2001. Since Darlinton Ditch transports irrigation water from the Madison River, NZMS will undoubtedly invade the ditch with river water.

While bioassays showed that Bayluscide will effectively kill NZMS, a supplemental Decision Notice was issued in September 2002 explaining the decision not to proceed with the treatment of Darlinton Ditch due to the inability of potassium permanganate to quickly neutralize the Bayluscide and the near proximity of a new and unstoppable source of NZMS to Darlinton Ditch.

Additional information on Aquatic Nuisance Species is on the web at www.anstaskforce.gov and www.protectyourwaters.net and for NZMS specifically, is available at www.esg.montana.edu/aim/mollusca/nzms.

The Montana Aquatic Nuisance Species Management Plan was submitted to the U.S. Fish & Wildlife Service Aquatic Nuisance Species Task Force by the Governor of Montana on October 15, 2002. The USFWS ANS Task Force will review Montana's Plan, and if it meets the criteria for such plans, will qualify Montana for federal assistance with preventing and controlling the dispersal of ANS in Montana.

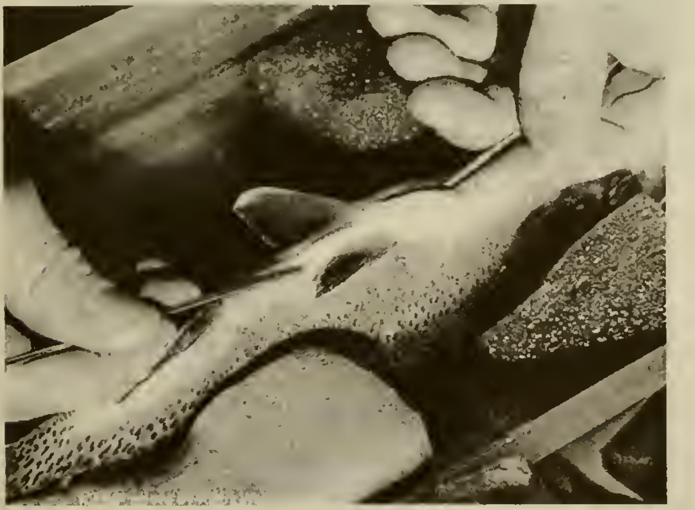
Ennis Dam on the Madison River. The gray metal pipeline (penstock) on the left transports water from Ennis Reservoir to the Madison Powerplant, approximately 1.2 miles downstream from the dam.

ENNIS DAM BYPASS STUDIES

A remote radio telemetry monitoring system was installed in the Bypass Reach of the Madison River between Ennis Dam and Madison Powerhouse in 2002 to assess fish movement seasonally and in response to changes in flow. Radio telemetry receivers are located at two sites to allow monitoring at the upstream and downstream ends of the Bypass. Two antennae are wired into each receiver.

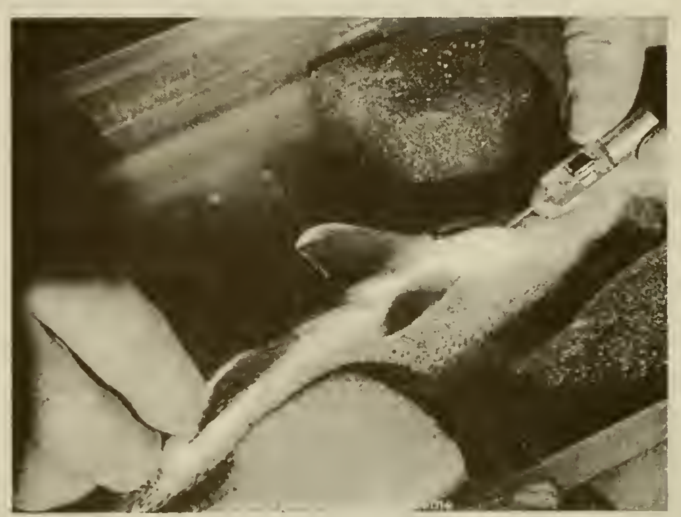
Coded radio transmitters were implanted in 6 rainbow trout, 5 brown trout, and one mountain whitefish. All transmittered fish swam away vigorously after recovery from the implant procedure. The transmitters have a rated life of 265 days. The transmitters weigh 7.7 grams. A rule-of-thumb states that the transmitter should weigh no more than 2 percent of the fish's weight, so this means that the smallest fish to receive a transmitter should weigh no less than 385 grams (0.85 lbs).

To implant the transmitter, fish are anesthetized to facilitate handling during the implant procedure. After the fish is anesthetized, it is placed ventral side up in a tray containing river water and it's head is submersed. A small incision is made on the ventral side of the fish anterior to the pelvic girdle, and the skin behind the pelvic girdle is broken with the scalpel. A grooved director is inserted into the body cavity through the incision and fed posteriorly past the pelvic girdle. It is used to capture the tip of a catheter needle that is inserted behind the pelvic girdle and directed anteriorly. This method prevents the sharp tip of the catheter needle from injuring the internal organs of the fish.



Catheter needle and grooved director being set in place to implant a radio transmitter in a rainbow trout in the ByPass Reach of the Madison River.

The transmitter antenna is inserted into the catheter tip and fed posteriorly until the transmitter is inserted into the body cavity. The grooved director and catheter needle are removed from the fish and the incision is closed with surgical staples or sutures. The actual implant procedure, from placement of the fish into the surgical tray to release into the recovery cage, lasts approximately one minute. Fish are held in a live cage until fully recovered. Prior to being released, the incision is examined to insure the closure is secure.



Radio transmitter being placed in a rainbow trout.. Note the transmitter antenna exiting the body cavity and trailing behind the pelvic fins.

Stapled incision on a rainbow trout after implantation of a radio transmitter.

JEFFERSON RIVER

Montana FWP and Montana Trout Unlimited completed the first year of a partnership to enhance the fishery of the Jefferson River. The most noteworthy events during 2002 were:

The brown trout fishery rebounded from a significant decline during the extremely low flows of 2000 and 2001. Population estimates of brown trout during April of 2002 indicate that the fish numbers have nearly returned to a level observed prior to the severe low flows of 2000.

FWP and TU worked extensively on the implementation of the Jefferson River Drought Plan in conjunction with water users and the Jefferson River Watershed Council during 2002. This drought plan has improved stream flow levels during the critical summer irrigation season.

TU, FWP's Future Fisheries Improvement Program, and the Jefferson Canal experimented with a relatively new technique for reducing seepage from irrigation ditches and this project was monitored by the DNRC water measurement program. This project saved approximately 6 cubic feet per second (cfs) by improving canal efficiency, which in turn, allowed for more water to remain in the Jefferson River.

Projects to enhance spawning habitat in the Jefferson watershed are an important component of the FWP/Trout Unlimited effort. The most significant spawning habitat project completed in 2002 was the installation of the fish ladder in the North Boulder River. This ladder allows fish movement above a concrete irrigation diversion which previously posed a seasonal barrier to fish passage.

YELLOWSTONE RIVER

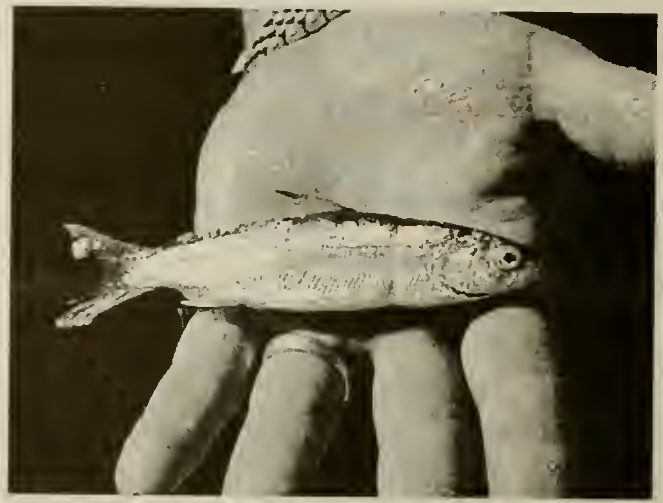
In general trout populations are doing very well in the upper Yellowstone River despite large runoff events in 1996 and 1997, and despite our recent drought. Mainstem abundance of rainbow, brown, and cutthroat trout is stable or increasing at different locations based on roughly 25 years of population information collected throughout the upper river. Spring spawning species, including rainbow trout and cutthroat trout, appear to be doing especially well in recent surveys. Trout population response to large-scale perturbations is especially resilient, resulting in remarkable stability over time.

REGION FOUR - GREAT FALLS

BER RESERVOIR

ollowing several years of drought, the water elevation at Tiber Reservoir was down 20 feet this past spring. Remarkably, a good snowpack and an intense June storm filled the reservoir by early summer. Tiber's fisheries responded well to this influx of water. There was excellent production of spottail shiners and yellow perch, and good numbers of young-of-year walleye were sampled in beach seines this past August. The most encouraging change observed on Tiber this year was the production of a very strong year class of cisco (lake herring). FWP stocked cisco into Tiber in 1997 and 1998 to improve the forage base for walleye and northern pike. Up until this year, only limited reproduction was observed, and the cisco that were originally stocked grew too large to be preyed upon by walleye. In fact, in last year's gill net surveys the average cisco was bigger than the average walleye caught. It is hoped that with the increasing number of cisco in the reservoir, their growth rates will decline and they will remain small enough to become a readily available food source for walleye.

A weekend creel survey was conducted on Tiber Reservoir during the summer of 2002. Walleye fishing was excellent in the early part of summer, with the best catch rates observed during late June and early July. However, the average size of walleye caught remained quite small (about 13 inches). Fishing success for walleye dropped off considerably later in the summer, likely as a result of increased availability of forage fish.



Young-of-year cisco produced in Tiber Reservoir during 2002.

LAKE FRANCES

Similar to Tiber, Lake Frances went into last winter nearly 20 feet below full pool. The reservoir had been so low the past several years that FWP, Walleyes Unlimited, and others cooperatively secured funding to install a low water boat ramp so anglers could access the lake. Plan such a project and Nature usually responds, and she did. The June storms that hit this area filled the reservoir quickly and the low-water boat ramp project was put on hold.

Several years of low lake levels resulted in abundant growth of shoreline vegetation on Lake Frances. Once flooded, this vegetation provides excellent spawning and rearing habitat for fish. Seining surveys on Lake Frances indicated good production of yellow perch and spottail shiners. This abundant forage resulted in tough fishing conditions for the lake's walleye and northern pike. Predator fish are more difficult to catch when prey fish are abundant. Although a weekend creel survey was not conducted on Lake Frances during 2002 as in past years, reports from anglers indicated that fishing was very slow. Many were wondering if the walleye fishery had survived the several years of drought. Fall gill net surveys revealed that the walleye fishery not only endured, it survived in excellent shape! Gill net catches averaged nearly 10 walleye per net, which is one of the highest catch rates ever observed on Lake Frances. More impressively, many of the walleye sampled were between 18- and 22-inches in length and in excellent condition. Yellow perch were also quite abundant in the nets, particularly smaller 5- to 6-inch individuals. With the expansive flooded vegetation on Lake Frances, the stage is set for excellent perch production in 2003 if the lake level maintains and spring weather conditions are favorable.

BYNUM RESERVOIR

Of the several irrigation storage reservoirs on the East Front, Bynum Reservoir suffered the greatest from the ongoing drought in northcentral Montana. Bynum's maximum depth was just 6.5 feet going into last winter. Three windmills were set up on this small reservoir to provide aeration in an attempt to minimize winterkill of this popular walleye and yellow perch fishery. These efforts showed some limited success. Sampling completed this past spring and early summer indicated that walleye, perch, suckers, and spottail shiners did survive the winter, but their numbers were greatly reduced. However, both adults and juveniles of each species were observed, so there is hope for rebuilding this fishery.

Bynum received a good shot of water during June, which raised the water level in the reservoir considerably. FWP stocked 30,000 walleye fingerlings into Bynum in early July to try and 'jump start' this fishery. Bynum's water level remains in good shape going into this winter. Currently, the maximum depth in the reservoir is about 18 feet, which is adequate to overwinter fish. Aeration will not be used on Bynum this winter and the reservoir will remain open to angling. It will take several years to rebuild this popular fishery, but with adequate water it will recover over time.

BEAN LAKE

Bean Lake is one body of water on the Front that has not had a reprieve from the drought. Spring sampling showed that the lake's popular rainbow fishery made it through last winter with the aid of two windmills and one compressor providing constant aeration. However, many of these fish exhibited deformities and blind eyes that were attributed to the lake's highly alkaline water. Fall netting surveys indicated many of these fish did not survive the summer. The lake continues to be quite low. Windmills and a compressor will be used again this winter to provide aeration on Bean Lake. Because of safety concerns associated with the use of aeration devices, the lake will be closed to fishing until March 31. Biologists are investigating the possibility of stocking rainbow trout strains that are more alkali tolerant, but the long-term recovery of this fishery will be dependent upon getting more water into the lake.

OTHER EAST FRONT RESERVOIRS

Eureka, Pishkun, Willow Creek, and Nilan reservoirs all received good water during 2002 after being quite low for several years. All four reservoirs are full or nearly full going into the winter. Fall netting surveys showed good numbers of stocked rainbow trout in Eureka, Willow Creek, and Nilan reservoirs. Each receive annual plants of rainbow trout, and historically these waters have produced some large fish. Pishkun Reservoir is stocked annually with kokanee salmon. Heavy predation by northern pike has likely limited the development of this fishery, as few were sampled in gill net surveys and anglers have had limited success fishing for them.

MISSOURI AND SMITH RIVERS

Whirling disease was monitored in the Missouri and Smith Rivers in 2001. Similar to previous years, infection levels remained high in Little Prickley Pear Creek (an important trout spawning tributary to the Missouri River near Craig) and in the mainstem of the Missouri River itself near Craig. One disturbing new result was that whirling disease was detected for the first time in the Dearborn River in 2001. The incidence and severity of the Dearborn infection were low and the future is uncertain. The Dearborn River is a critical spawning and rearing stream for Missouri River rainbow trout. Whirling disease levels in the Smith River near Camp Baker were higher than in past years. The disease may start affecting recruitment of rainbow trout in the upper Smith River in the near future.

Population estimates were conducted on two long-term Missouri River monitoring sections for brown trout during spring 2002 and for rainbows in fall 2002. Although the number of adult brown trout is lower than last year in both sections, brown trout populations in both sections are still above average. Numbers of adult rainbow trout remain high in the Craig area, and have declined to about average further downriver in the Pelican Point area. The big change this year was the number of yearling rainbow trout found in the Missouri. In the Craig area, the number of yearling rainbows this fall was higher than in 2001 but was only about half of the long-term average. The low number of yearlings in the Craig area is probably due to continued heavy whirling disease infection in Little Prickly Pear Creek, where most Craig-area rainbows spawn. Conversely, the estimated number of yearling rainbow trout further downriver in the Pelican Point area was at an all time high in fall 2002. Apparently, production of young rainbows in the Dearborn River and Sheep Creek was excellent in 2001, resulting in the observed exceptional numbers of yearlings in the lower river in fall 2002.

New Zealand mud snails were discovered in the Missouri River near the Wolf Creek Bridge during the summer of 2002. These tiny exotic snails can reach extremely high density and can compete with other invertebrates for space and food. The future impact of these critters on the Missouri River is unknown, but they may have an impact on the available food for fish.

Population estimates were conducted on two long-term monitoring sections on the Smith River during the fall of 2002. Results indicate that the number of rainbow trout 8 inches or longer were at or near all-time lows in both the Eagle Creek section (at the upper end of the popular floating section, near Camp Baker) and further downriver in the Deep Creek section. The brown trout population in the Eagle Creek section was about average, but has been declining since 1999. Brown trout numbers in the Deep Creek section were near the long-term average. It appears as though trout populations in the Smith River (especially rainbow trout) are suffering from several years of low flows and high water temperatures caused by drought conditions.

WESTSLOPE CUTTHROAT TROUT RESTORATION IN NORTHCENTRAL MONTANA

Cutthroat trout are the official State fish for Montana. Westslope cutthroat was the only native trout species in the rivers and streams of the Missouri River drainage before exotic species like rainbow, brook and brown trout were introduced. In 1997, westslope cutthroat trout were petitioned for listing as threatened under the Endangered Species Act. As yet, a final decision on whether listing is warranted has not been made. The specter of a "listing", and concern for the few last remaining populations of westslope cutthroat, led to the development of a Conservation Agreement in 1999 between various federal, private and state entities from the State of Montana.

After more than a year of effort, in 2000, Montana Fish Wildlife and Parks (FWP) and United States Forest Service personnel produced a comprehensive report on the status and restoration strategies for westslope cutthroat trout in Northcentral Montana. The report estimated that this fish was originally found in approximately 4,000 miles of rivers and streams in this area. Today, genetically pure westslopes are found in only about 200 miles of small headwater streams in Northcentral Montana, meaning they have been extirpated from 95% of their original range here. The remaining genetically pure populations in this area are found exclusively above natural barriers (usually waterfalls) that prevent invasion by non-native rainbow and brook trout. Brook trout typically out-compete cutthroat while rainbow trout threaten cutthroat by interbreeding.

Meeting the goals of the Conservation Agreement required additional funding for completion of restoration actions. In 2002, a challenge cost-share agreement was formed between FWP and the U.S. Forest Service. The agreement allows funds from both agencies to be used to protect and restore native westslope cutthroat trout populations. Through the agreement, a full time biologist and a part time technician were hired in June, 2002 to focus solely on developing projects to restore westslope cutthroat trout.

Efforts to save cutthroat through the challenge cost-share program include transferring pure cutthroat to headwater reaches of streams that never had fish because of the presence of a barrier, such as a waterfall. Other solutions include creating man-made barriers, eliminating non-native fishes above them, then repopulating with native cutthroat. In its first year, the challenge cost-share program helped transfer fish from two pure cutthroat populations to new homes in other drainages previously devoid of fish. One such transfer completed in 2002 was from North Fork Deep Creek in the Smith River drainage to Petty Creek in the Sun River Drainage. Another transfer was from Whiterock Creek in the Two Medicine drainage to Lonesome Creek in the Badger Creek drainage on the northern end of the Rocky Mountain Front. These transfers, if successful, should create self-sustaining populations of genetically pure westslopes in five miles of new stream habitat. These efforts will help make westslope cutthroat more persistent and more resilient to large-scale catastrophic events such as fire and drought. Transfers require numerous tests of donor and recipient streams (e.g. fish disease, insects, amphibians) to be sure the transplanted fish do not negatively impact their new environment.

Other work completed in 2002 includes: creation of a barrier on Big Coulee Creek (Highwood Creek Drainage); planning and a feasibility study for a barrier on the South Fork of the Judith River; planning for a barrier and non-native trout removal on Lake Creek (Smith River Drainage); and planning for construction of a barrier on Pilgrim Creek (Belt Creek Drainage). Genetics, abundance, and biomass of fishes were monitored in numerous small streams region wide.

Another restoration project completed recently was the chemical treatment of approximately five miles of a small stream and a 21-acre reservoir on private land in the lower Smith River drainage with plans to reintroduce native cutthroat. FWP is currently working with the landowner and the United States Fish & Wildlife Service to develop an agreement to protect the landowners' interests in the event that westslope are listed as threatened or endangered. Two years of electrofishing removal of brook trout above a barrier constructed in 2001 in the Highwood Mountains looks promising; this year biologists found very few brook trout and record numbers of westslope cutthroat trout. Other transfers of pure westslope in the past few years included an upstream transfer above a barrier in Gold Run Creek (Belt Creek Drainage), which added ½ miles of populated habitat, and a transfer of genetically pure cutthroat from Richardson Creek to a site above a barrier on Four Mile Creek, both in the Smith River drainage.

Future work will include further expansion and protection of small isolated populations of westslope cutthroat trout. In addition, work should include rehabilitation of a medium sized drainage with more than 10 connected stream miles and a larger sized drainage with more than 50 connected stream miles. Connecting many small populations and restoring habitat in larger streams is vital to the continued persistence and health of westslope cutthroat trout populations in Northcentral Montana.

BIG SPRING CREEK

Big Spring, near Lewistown, feeds 20-mile Big Spring Creek with a near-constant flow of about 100 cubic feet per second. This base flow is usually augmented by spring run-off. The last two years of drought have resulted in very little increase over base flow and occasional low flows downstream of Lewistown. However, Big Spring Creek continues to produce good numbers of trout greater than 10 inches. In 2002, there were nearly 2500 catchable trout per mile downstream of Lewistown, well above the average of 1800. Upstream of Lewistown, where trout numbers have typically been much lower, there were about 700 catchable trout per mile, which is slightly above the long-term average. In contrast, small rainbow trout did not fare well in 2002. Throughout Big Spring Creek, numbers of rainbow trout less than 10 inches long were at near record lows.

BIG CASINO RESERVOIR

Throughout the 1990's, Big Casino Reservoir had dense stunted white sucker populations and stocked rainbow trout rarely grew larger than 12 inches. A dual approach to white sucker suppression has worked very well to increase rainbow trout size in this 17-acre reservoir. Walleye have been stocked annually since 1997 to reduce white sucker recruitment. After walleye were stocked, biologists noted a decline in the number of small white suckers, but large suckers were still common. In 2001 and 2002 white suckers that were too large for walleye forage, were trapped, killed and recycled in the reservoir. About 4500 ponds of suckers were eradicated in 2001 and an additional 120 pounds were treated in 2002. Catch rates of suckers declined from 210 per trap in 2001 to 10 per trap in 2002. Trapped rainbow trout size increased dramatically from 2001 – 2002. Rainbow trout averaged 11.5 inches and 0.52 pounds in April 2001, and increased to 14.9 inches and 1.40 pounds by April 2002. Yellow perch, illegally introduced into Big Casino Reservoir around 2000, are starting to show up in gill nets and may reverse the trend of increased trout growth.

OTHER LEWISTOWN-AREA RESERVOIRS

Several reservoirs in northcentral Montana have been hit by drought in recent years, impacting fisheries and making it tough to launch a boat. Yellowwater Reservoir, near Winnett, had a maximum depth of about 2 feet in September. Petrolia Reservoir (also near Winnett) is extremely low and Martinsdale Reservoir has been at less than 5% capacity for most of the year. Bair Reservoir is also very low but should overwinter fish. Ackley Lake, while low, has more water than last year and has nice rainbows up to about 2 pounds. Drought did not impact East Fork Reservoir, near Lewistown, and the northern pike population changed little from 2001. Trapping in 2002 estimated about 1000 northern pike were in the reservoir. The population is still composed primarily of small pike. Only 3% of the 367 trapped northern pike were at least 3 pounds while 30% exceeded 2 pounds. The percent of 2 to 3 pound northern pike did increase substantially from 2001 when only 12% of the captured pike exceeded 2 pounds.

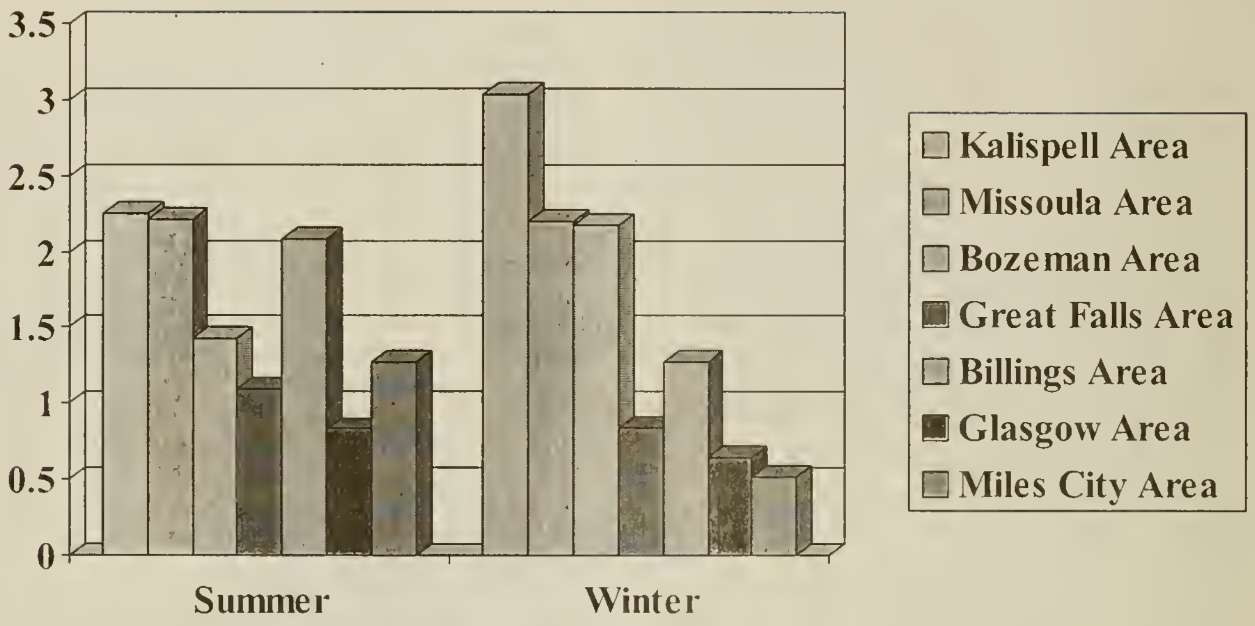
REGION FIVE - BILLINGS

BIGHORN RIVER

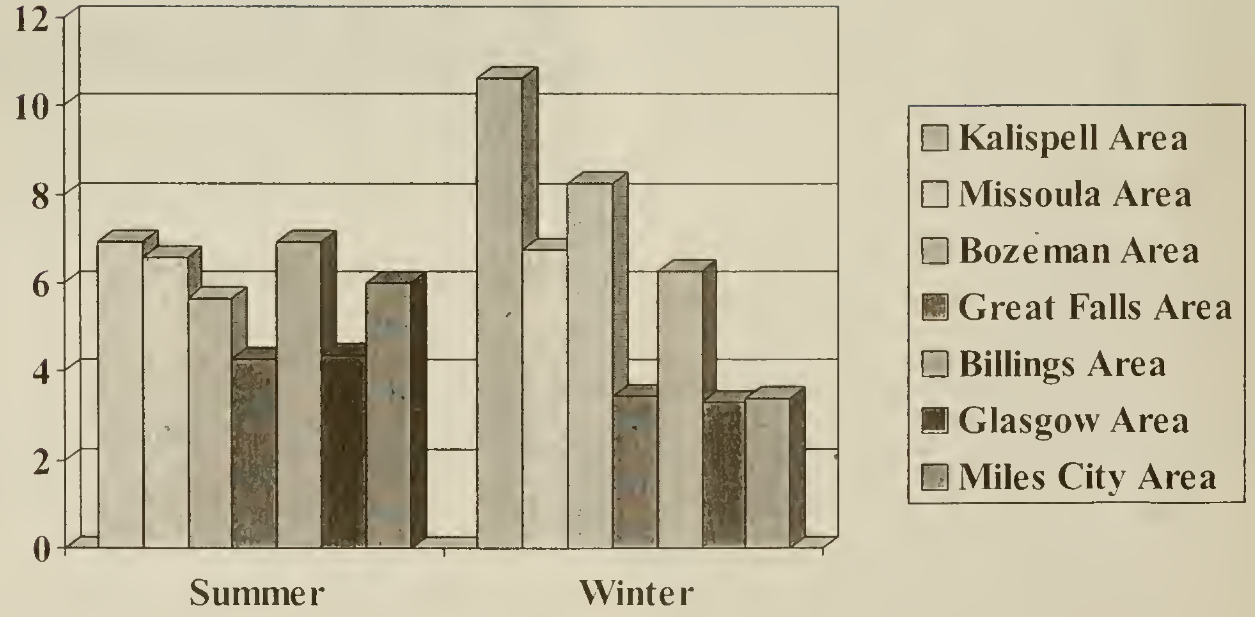
Drought continued to be the driving theme behind most of the fisheries in Region 5 in 2002, and the Bighorn Drainage was one of the hardest hit areas. The Bighorn River is in the middle of the worst drought conditions experienced since FWP started managing the fishery river in 1981.

The Bureau of Reclamation (BOR) manages Yellowtail Dam and thus controls flow in the Bighorn River. The BOR has always strived to maintain the best flow conditions possible for the river fishery based on the amount of water

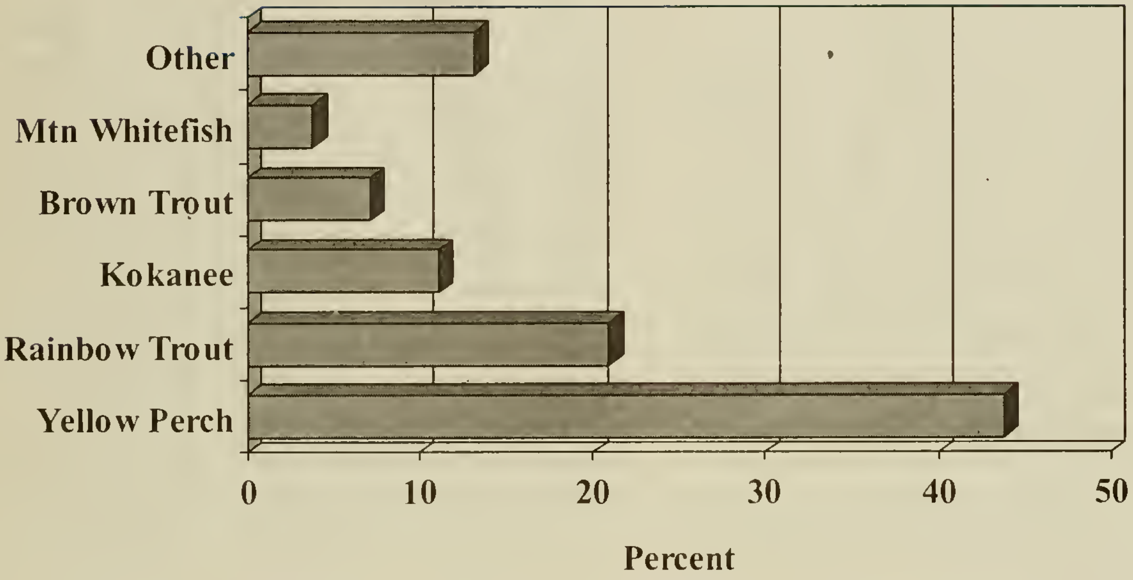
Average Number of Fish Caught Per Hour
2001 Log Year



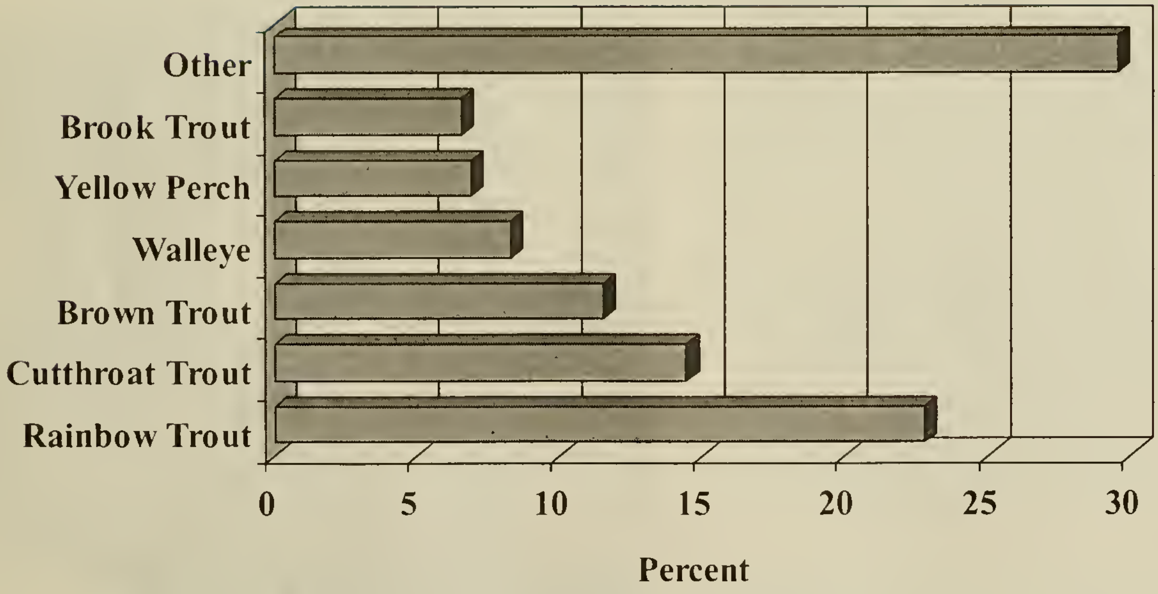
Average Number of Fish Caught Per Day
2001 Log Year



Statewide Top Game and Sport Fish December 2000 Through April 2001



Statewide Top Game and Sport Fish May 2001 Through November 2001



available in the drainage and other mandated operating criteria. Under good water conditions, the BOR maintains river flows at or above 2,500 cfs. This flow maintains most of the important side channel areas along the river and helps ensure healthy trout populations. During drier times, the BOR still tries to maintain river flows above 2,000 cfs, which is the minimum target flow necessary to provide a good fishery. Flows below 2,000 cfs start to seriously dewater key side-channel habitat along the Bighorn. During serious drought the BOR operates the Bighorn River around 1,500 cfs, which has always been considered the absolute minimum flow acceptable. At this flow, over 60% of the side-channel habitat has been lost, and the river fishery is being seriously impacted.

Prior to 2002, the worst drought conditions experienced in the Bighorn River were in 1988 and 1989, when river flows were below 2,000 cfs for almost 500 continuous days. However, river flows only dropped below 1,600 cfs for 45 continuous days during this period. In 1994 – 1995, river flows dropped below 2,000 cfs for 320 continuous days and were below 1,600 cfs for 179 days. Both of these low-flow periods caused serious declines in trout populations in the Bighorn River.

As of December 1, 2002, Bighorn River flows have been below 2,000 cfs for 572 days and below 1,600 cfs for 434 days. On October 25, Bighorn flows were reduced below the absolute minimum fisheries flow of 1,500 cfs to only 1,300 cfs. Based on the most probable forecast from the BOR, this new low level will probably be maintained until runoff starts next spring. Even then, Bighorn flows will likely only be brought back up to and maintained at the minimum fisheries flow of 1,500 cfs until this drought breaks.

Flow levels have always been considered the single greatest factor controlling fish populations in the Bighorn River. Ongoing low flows are having serious impacts on Bighorn trout populations. In 1998, brown trout populations in the upper river had grown to the second highest level ever recorded (over 8,800 brown trout per mile), which was at the end of several years of good river flows. The brown trout population began declining in 1999 and has continued going downward along with the flows.

Preliminary estimates using 2002 data indicate the brown trout population in the upper Bighorn is down to less than 800 9" and longer brown trout per mile! Even more alarming is that most of the fish sampled were larger three- and four-year-old fish, which will soon die from old age. Although some 3.5" to 6" yearling brown trout were captured during electrofishing, only 10 brown trout between 6" and 14" were handled during 6 days of electrofishing on the upper river during 2002.

Angling success remained fairly good on the Bighorn River this past summer, because there were still enough larger fish available for the angler. (The fish that were caught were in great condition.) As these older fish pass out of the system, there does not appear to be many younger fish available to fill in behind them. Shocking on the lower Bighorn near Mallards Landing Fishing Access Site in the fall of 2002 did turn up a more normal population structure with more small and medium sized brown trout, but the total population was much reduced. The contribution of these fish to the total Bighorn fishery will be minimal.

The rainbow population on the upper river followed the same pattern as the brown trout. Rainbow populations had built up during good flows in the 1990's then started declining in 1999. By 2000 and 2001, the number of small rainbow trout declined enough in the upper river that it was only possible to estimate those over 15" in length. During 2002 sampling, rainbow recapture rates were too low to allow any valid estimates in the upper river. Again, only 3 rainbows between 5" and 15" were collected during 6 days of electrofishing. Most of the rainbows handled were older fish, which will soon age out of the system. As with brown trout, more small and medium-sized rainbow were captured in the lower shocking section in the fall, but total population numbers were down.

Anglers could be looking at some pretty lean times on the Bighorn until flow levels recover. Even when flows do return to normal, recovery will take some time, because few spawning trout will remain.

BIGHORN LAKE

Low water levels made it impossible to launch a boat in Bighorn Lake during either the spring or fall sampling periods in 2002, so no fish sampling was conducted. Low lake levels also kept recreational boaters off the lake for most of the season. The ramp at Barry's Landing was open 47 days from June 6 through July 22, while the Ok-A-Beh ramp was only open for 10 days from June 28 through July 7. Anglers who did get on the lake during this period reported catching good numbers of small walleye, but many of them reported that the walleye they caught were in poor condition. Poor walleye condition may reflect one expected impact of the low water levels in Bighorn Lake. Dewatering of the shallow flats in the upper end of the reservoir, and in many of the side canyons, has probably had a major impact on forage fish production in the lake.

Despite the low water levels, Bighorn Lake still received the normal plant of 4 million walleye fry and 200,000 fingerlings in 2002. The National Park Service had a boat in the water throughout the summer, and they helped distribute these walleye plants in the lower end of the reservoir. Based on current projections for Bighorn Lake, water levels could again be very low next summer. The Park Service plans to extend the boat ramps at both Barry's Landing and Ok-A-Beh this winter, so the boating season should be longer on the lake next summer even if lake levels remain low.

ARAPOOISH POND

Arapooish Pond is still recovering from a complete winterkill in the winter of 2000. The pond was restocked with largemouth bass last year, and our spring survey indicated that these bass survived the winter and grew to 6"and larger. Angling pressure was still light this summer due to the small size of the bass. These bass should be large enough by next summer to start providing the exciting fishing Arapooish is known for.

YELLOWSTONE RIVER

Drought conditions continued on the Yellowstone River in 2002, and although flow levels were a little better than in 2001, they were still low enough to severely limit sampling effort on the river. Limited spring and early summer shocking above and below Laurel and in the South Hills section near Billings failed to collect any Yellowstone cutthroat trout, although a number of nice rainbow and brown trout were captured. One angler reported catching two cutthroat trout just over one pound apiece in the Yellowstone River near Park City this spring. A total of 79,500 sub-catchable Yellowstone cutthroats were planted in the Yellowstone River between Billings and Laurel again this summer. During one day of shocking downstream from Laurel after these plants, we captured numerous 6" to 8" cutthroat trout.

A new headgate structure was installed above Huntley Dam this summer, which included a rack for holding nets to evaluate fish movement down the ditch. The BOR began testing several nets at this site during the summer, and will set up an actual monitoring program next summer to document the numbers and kinds of fish moving down the ditch.

Montana Rail Link has blocked historic vehicle access to the Yellowstone River below Huntley Dam. Anglers can still park and walk approximately ¼ mile to the site. Recent losses of such key access sites has led a diverse group of interested parties to collectively seek to improve public access to the Yellowstone River within Yellowstone County. They are currently trying to identify all potential access points, and will then prioritize and begin working on securing and developing key sites. This group could provide a model for other counties along the Yellowstone River to follow.

As the river began to rise in the spring, we were able to conduct survey shocking near Laurel and Big Timber. Several age classes of fish were present at both locations, and it appears the impacts of the drought on the river aren't yet as severe as they could be. One notable effect of the drought is the apparent upstream expansion of the smallmouth bass population. Anglers reported catching bass near Laurel, and one bass was caught as far upstream as just east of Reed Point. It is likely that the warmer water temperatures have attracted the bass that traditionally inhabit areas downstream of Billings. Despite the low water conditions, anglers have reported that fishing (particularly for rainbows) has never been better on the Yellowstone between Big Timber and Columbus. This excellent fishing is likely due to the low water concentrating the fish, cool late-summer temperatures, and a very abundant grasshopper population this year.

Interestingly, in early April we tagged a rainbow trout in the Yellowstone River near Laurel with a blue "spaghetti" tag, and 10 days later an angler caught the same fish above the Moraine Fishing Access Site on the Stillwater River. That particular 13" rainbow swam over 70 miles in 10 days in order to spawn in the Stillwater River! It makes a person more fully appreciate the benefits of having adequate passage to allow fish to freely move back and forth to find the types of habitat that they need.

LOWER DEER CREEK

Lower Deer Creek is a tributary that enters the Yellowstone River east of Big Timber. The creek supports a mixed population of pure Yellowstone cutthroat trout and brown trout. The stream was fishless above a barrier falls approximately 13 miles upstream from the confluence with the Yellowstone. Working in cooperation with the US Forest Service, we introduced Yellowstone cutthroat trout into the upper 5.5 miles of Lower Deer Creek. Five hundred fish were planted in the spring, and an additional 2,500 fish were planted in the fall. The planted fish came from eggs taken directly from McBride Lake in Yellowstone Park and were reared in the Yellowstone River Trout Hatchery in Big Timber. The fish planted in the spring appeared to be in excellent condition by fall when the additional fish were planted, and we are hopeful that the introduction will be successful. Fish plantings will likely continue for the next two years to establish several age classes of fish in the stream.

LAKE ELMO

Although the extended drought has taken a major toll on most of the smaller lakes and ponds in Region 5, Lake

Elmo and Lake Josephine remained bright spots this summer. Both lakes are maintained by irrigation water from the Yellowstone River, so they have more water during the drought than most ponds in the area. Lake Elmo started out last winter completely full, but a leak in the outlet structure caused lake levels to fall all winter, leaving the lake at seriously low levels by spring. Fortunately ice came off the lake fairly early, and no fish losses were observed. The headgate structure continues to leak at Lake Elmo, and the Heights Water District is planning on repairing the outlet structure this winter. As a result, Lake Elmo was drawn way down this fall to allow for work on the headgate. Once repairs are completed, there is no way to refill the lake until the irrigation ditch begins flowing next spring. A severe winter could have serious impacts on the fishery in Lake Elmo at these low levels.

Lake Elmo continued to provide many angler-hours of fun this summer. A majority of anglers were after rainbow trout, but there were also some serious catfish anglers on the lake, along with many kids just wanting to catch "fish". Most angers seemed happy with their results. Lake Elmo received plants of over 1,100 catchable (6" – 9") rainbows along with a plant of 320 retired rainbow brood stock from Ennis National Fish Hatchery. These retired brood fish ranged from about 3 to 9 pounds and provided some real excitement for a number of anglers. One angler reported catching a rainbow from Lake Elmo this summer that weighed over 13 pounds! Lake Elmo also received a plant of 7,800 small channel catfish in October. Several channel catfish over 10 pounds were reportedly caught in the lake this summer, along with many smaller catfish.

None of the large crappie or yellow perch that have sometimes been seen in the past was captured during spring or fall netting this year. Numbers of small forage fish were also down in this year's net samples, which may have been related to the low winter lake levels. The last plant of rainbow trout into Lake Elmo occurred in August, and although some of these fish were caught this fall, there should still be a good trout population in the lake for ice fishermen, if the lake ever freezes solid enough.

LAKE JOSEPHINE

Lake Josephine continued to be a good family and kids fishery for small crappie and sunfish. Few reports were received from bass or catfish anglers on Lake Josephine this year, but both fish species should still be doing well. Lake Josephine is scheduled to receive a plant of 10,000 largemouth bass every other year, so no bass were stocked this summer.

LAUREL POND

Laurel Pond is one of only a few ponds that provides angling opportunities close to an urban area. It is stocked with catchable-sized rainbow trout several times during the year, and provides an excellent opportunity for families and youngsters to get out and enjoy an afternoon of fishing. The installation of an aerator, purchased by Montana Pikemasters, appears to have substantially reduced the problem of fish kills in Laurel Pond. No fish kills occurred during the winter of 2001-2002 or during this past summer. The City of Laurel plans to install additional aerators in the pond to further reduce the chance for fish kill in the future.

BROADVIEW AND ANITA RESERVOIRS

Both Broadview Reservoir and Anita Reservoir have been almost totally dewatered by continuing drought, and their fisheries have been lost. All stocking for both ponds has been canceled until water conditions improve.

ABSAROKA-BEARTOOTH LAKES AND STREAMS

During summer 2002, we were fortunate to have one field crew to survey lakes and another to survey streams in the Absaroka-Beartooth Mountains. The primary objective of the lake surveys was to monitor the fisheries in both self-sustaining and stocked lakes to determine the health of fish and decide whether stocking rates should be modified. Thirty-two lakes were sampled this year using gill nets and angling. In addition to fisheries data, the lakes crew collects information on the invertebrates and amphibians present in the lakes and surrounding area. The primary objective of the stream crew was to determine Yellowstone cutthroat trout presence in streams and quantify the habitat characteristics of cutthroat streams. Additionally, the stream crew identified fishless streams suitable for introduction of cutthroat trout in the future. Fifteen streams were sampled this summer and approximately 14.5 miles of stream habitat characteristics were quantified.

ROCK CREEK

Despite chronic dewatering in its lower portions, Rock Creek supports a healthy fishery in those areas with water. This spring we sampled the middle section of the creek between Roberts and Red Lodge. This section supports a

60-40% mix of browns and rainbows with a few brook trout; rainbow trout numbers appear to be increasing, causing the total population of fish to be greater than in years past. Most fish are 10 to 14" long, with many browns up to 18". The effects of drought in this portion of the creek are somewhat mitigated by water released from a storage lake in the Absarka-Beartooths.

We also electrofished Rock Creek near the town of Joliet, but were not able to complete a population estimate because of high water. This section of creek contains browns, rainbows and whitefish, among other fish. Although there are fewer fish in this stretch of stream than farther upstream, the average size is quite a bit larger. Brown and rainbow trout averaged between 14 and 16", with some fish over 21".

BLUEWATER CREEK

Bluewater Creek is a mostly spring-fed stream that originates in the Pryor Mountains and runs to the Clarks Fork of the Yellowstone River. Bluewater State Fish Hatchery is located along the stream. Bluewater Creek continues to support a very healthy population of brown trout, with a few rainbows. Because much of its flow originates from large springs, the drought has had little impact on the small stream and the fish appear to be thriving on the abundant aquatic insects found in this weedy stream. Most fish are in the 10-14" range, but a few are over 18".

COONEY RESERVOIR

The mixed walleye/rainbow fishery of Cooney Reservoir is providing anglers with the opportunity to catch excellent, pink-meated rainbows and walleyes up to 15 pounds! If an angler is looking for a place to catch some dinner, Cooney Reservoir is an excellent spot to try, particularly in the spring and fall. Our data from this year suggest that the rainbow trout are in excellent condition, with a 12" fish weighing almost one pound. These fish forage mostly on the abundant zooplankton of the reservoir, making their flesh as pink as salmon fresh from the ocean. Adult walleye numbers appear to be holding steady with many fish in the reservoir over 10 pounds. In approximately 1 hour of electrofishing this spring, we captured, tagged, and released 30 walleye with a combined weight of over 300 pounds! The tag returns we receive from Cooney anglers help us to determine valuable information, such as growth rates. Our fall netting data suggest that the trout growth rates continue to be excellent, and that there are many walleye in the 12-16" range, but not as many in the 17-30" range. Despite the lack of the 17-30" fish in our fall nets, many fish in this size range were captured during our spring electrofishing, suggesting that the larger fish may use deeper water during the fall and avoid our gill nets.

An interesting fact about Cooney walleye is that the male fish in the reservoir are much larger than in other reservoirs. Generally male walleye do not reach sizes much greater than 5-7 pounds, and female fish represent the majority of the trophy fish population, but not in Cooney. We captured several fish over 13 pounds this spring that appeared to be fat with eggs and ready to spawn. Upon closer inspection, however, we found that several of these fish were larger males that were every bit as fat as the females.

STILLWATER RIVER

Summer rains in the Absaroka-Beartooth Mountains, and lower-than-normal temperatures in August, led to a significant improvement in stream flows and stream temperatures during the summer of 2002 as opposed to 2001. Anglers were able to float the lower section of the river from Absarokee to Columbus well into August. The Stillwater River appears to be weathering the drought fairly well, as many age classes of fish are present and anglers continue to have success.

BAD CANYON CREEK

The rehabilitation project on Bad Canyon Creek was completed during the fall of 2002. Brown trout were successfully removed from the upper three miles of the creek and its tributaries. Twenty-one Yellowstone cutthroat trout were rescued from the creek prior to removal of brown trout and were placed back into the stream. Additional cutthroat trout will be planted in the summer of 2003 to aid in the recovery of this native fish in Bad Canyon Creek.

EAST ROSEBUD LAKE

East Rosebud Lake was sampled this spring with the aid of Columbus High School's advanced science class taught by Rich Stiff. East Rosebud Lake is stocked annually with rainbow trout, but wild populations of brook and brown trout exist in the lake along with whitefish and suckers. The fish in the lake appear to be in excellent condition, although fewer brook trout were captured this year than in past years. Rainbow trout planted the previous year averaged 12-13" long. Brown trout averaged around 16", but several fish were over 18", the largest being about 27" and 8 pounds. One 22" brown trout had an 8" trout and an 8" whitefish in its belly.

BOULDER RIVER

Fish spawning surveys were performed in the spring and fall for rainbow and brown trout in the area just below Natural Bridge. This spawning area is extensively used both by resident fish and fish migrating from the Yellowstone River. The surveys are a continuation of the monitoring performed over the past three years to document the trends in spawning activity at the Beaver Meadows Ranch, where a bank stabilization project was completed in the fall of 2001. Additionally, redds were counted in the area immediately upstream of the Natural Bridge through the Aller's Ranch. Despite the prolonged drought, redd counts appear to be relatively stable in this section of the Boulder River.

Working in cooperation with local ranchers (particularly Bruce Eckert of Big Timber) and Montana Trout Unlimited, a fish rescue operation was performed on the Lamp-Nelson Ditch that originates on Skip Herman's KT Ranch about 5 miles south of Big Timber. The ditch water was lowered, and we electrofished a 1.3-mile reach of the ditch to capture fish. In four hours, we captured 170 brown trout, 9 rainbow trout, 621 mountain whitefish, 29 sculpins, and 3 long-nosed dace, and returned them to the Boulder River. Most of the fish were in the 3-5" range, but at least 25 exceeded 10" and three were over 16", including a 3 pound, 18" female brown trout ready to spawn and an 18.5" rainbow.

MUSSELSHELL RIVER

Drought continued to grip the Musselshell River again in 2002, although flows in the upper section of the river were a little better than those experienced in 2001. A mark/recapture estimate was conducted at our standard shocking section near Selkirk Fishing Access Site in April to see if any trout survived the extremely low flows in 2001. A total of 123 brown trout were handled during 2 days of shocking in 1.25 miles of river. Many of these brown trout were yearling fish from 3.5" to 5.5" long. Most of the remaining fish were over 14" in length. Several brown trout over 19" long were captured, with the largest on measuring 21.1" and weighing 2.64 pounds. Similar to the pattern seen in the upper Bighorn River, only 3 brown trout between 5.5" and 14" were captured, indicating at least one year-class is missing. A preliminary estimate using these data found a total brown trout population of 618 3" and longer fish per mile. Almost 90% of this estimated population consisted of one-year-old fish less than 6" long. If this strong year class survives another poor flow year in 2002, it could be an important part of the recovery program for the Musselshell trout fishery, once flows return to normal. The numerous beaver ponds scattered throughout the upper Musselshell River were probably an important refuge for keeping brown trout alive through these years of extreme drought.

Flows on the lower Musselshell River downstream of Roundup again declined to zero in July, once Deadmans Basin quit releasing water. The river became a series of standing pools with only intragravel seep to sustain them. A few fish apparently survived being stranded in these intermittent pools of stagnant water in 2001, because fish were observed in a number of the isolated pools in 2002. Reports were even received about anglers catching smallmouth bass in the river near Roundup this summer. It seems amazing that any fish would still be alive in the lower Musselshell after two years of zero flow, but hopefully enough will survive to start repopulating this section of river once flows return.

DEADMANS BASIN RESERVOIR

In 2001 Deadmans Basin Reservoir was drawn down to only 9,000 acre-feet, compared to a normal full pool of about 72,000 acre-feet. Spring gill netting in 2002 showed the fishery was able to survive the winter even at these low lake levels. Continuing low flows in the Musselshell River prevented Deadmans from refilling very much this past winter. Once irrigation withdrawals began this spring, it didn't take long to have Deadmans back down to 9,000 acre-feet. Hopefully, the Deadmans' fishery can make it through another winter at these low lake levels, and flows will begin to improve in the Musselshell Drainage this winter so Deadmans can start to refill.

The tiger muskie plants seem to be reducing sucker population, but perhaps more quickly than desired. Without enough suckers to feed these predators, the tiger muskies may prey more on the other game fish. The average sizes of both rainbow and kokanee captured during spring and fall netting were larger this season, with some rainbows exceeding 17" and some kokanee exceeding 19". Sucker netting rates were down considerably from previous years, and very few smaller suckers have been captured the past couple of years. Three tiger muskies from 31.9" to 33.3" long were netted in the spring, and one 34.0", 10.2 pound, tiger muskie was captured in the fall. We documented that an angler caught a tiger muskie in Deadmans this summer, and had several others reported but not confirmed. Rainbow trout and kokanee plants were cut in half for Deadmans again in 2002 due to the low water conditions. Deadmans received 100,000 rainbow trout and 50,000 kokanee in 2002. Additional tiger muskie plants are on hold until Deadmans Basin refills and the their impact on the lakes sucker population can be evaluated.

REGION SIX - GLASGOW

FORT PECK RESERVOIR

More than 2,300 walleye spawners were captured near McGuire Creek in the Big Dry Arm, during one of the coldest spawns on record. Due to receding lake levels, fisheries personnel were unable to use the Nelson Creek spawning station for the 2nd consecutive spring. Fisheries personnel had to resort to a portable spawning barge near McGuire Creek, which was typically accessible by boat. During wet weather however, access was only possible by boat from Rock Creek, nearly 10 miles north. In spite of the cold weather, frigid water temperatures, persistent winds, and difficult access, the spawn was very successful. Eighty-four million eggs were taken, providing sufficient eggs to meet almost all of Montana's statewide walleye stocking needs. If forecasted water level declines by the spring of 2003 are accurate, low water will continue to force the walleye spawn north, pushing egg-taking activities further down the Big Dry Arm. Lake elevation is expected to be near 2213 feet by the end of February 2003, a loss of 37 feet since 1999.

The fisheries management plan for 2002 called for 3 million fingerlings to be stocked in Ft. Peck. The hatchery system within Montana cannot rear this number of fingerlings, so fish and game departments in North and South Dakota were asked for surplus walleye. Unfortunately, poor production conditions in all three states last spring, resulted in only 1.9 million fingerlings being stocked. The disappointing production of fingerlings was generally a result of poor fry survival in rearing ponds due to cold weather. Fortunately, a respectable number of walleye fry (26 million) were hatched at Miles City and stocked into the reservoir.

Northern pike and salmon fingerling were also stocked in 2002. A total of 160,000 northern pike fingerling were planted and 400,000 chinook salmon fingerlings. Pike were stocked at Rock Creek, Spillway Bay, Duck Creek, and the Pines boat ramps. An experimental plant of 93,000 chinook salmon fingerling was also made at the Pines, with the remaining fish released in the Ft. Peck Marina Bay. Nearly 135,000 of these were held in rearing pens in the Marina Bay to increase size of fingerlings prior to release and to ensure imprinting so that when they matured, they would return for egg-taking.

Annual survey work including gill nets, seines, and cisco netting were conducted on Fort Peck in 2002. The gill net survey results indicate that walleye have a stable population containing a large upcoming 3 and 4-year-old year-class of fish, between 12 and 14 inches. Anglers should anticipate higher catch rates of small walleye in 2003. Both walleye and northern pike continue to be very robust, as a result of the good cisco spawn in 2001. The pike population remained low but stable, with an increase in overall size. Very few pike less than 22 inches were captured in 2002. Yellow perch numbers were down overall. The pike and perch populations rely on submerged vegetation or similar structure to successfully spawn. Declining reservoir elevations restrict pike and perch production, as suitable spawning sites are limited.

Beach seining indicated very poor production of shallow water fish species during 2002. Yellow perch, spottail shiner, emerald shiner and crappie young-of-year are at, or reaching record low abundance. This is due to the declining lake elevation, as spawning and habitat needs are not being met. Smallmouth bass young-of-year also showed a decline, but remain near a ten-year average overall. Without good shoreline forage and adequate cover habitat, the survival and condition of stocked walleye is likely to decline. Shoreline forage fish are needed to provide forage for walleye in the first 3-5 years before they fully recruit to a cisco diet.

Young-of-year cisco netting indicated a poor 2002 year-class, however the 2001 year-class remains abundant and may sustain predator populations if another good year-class is produced in 2003. The low number of cisco produced in 2002 was not totally unanticipated; in years following high densities of cisco, as in 2001, recruitment has been historically low in Fort Peck. If ice cover occurs prior to mid January, another good year-class of cisco can be expected. If ice conditions aren't favorable, one could expect another poor year of cisco production.

Although fisheries personnel anticipated 2002 to be a good year for chinook salmon, the run on Fort Peck was poor. The reason for the poor showing is undetermined at present. The salmon run in 2003 is expected to be fair. Salmon were spawned in 2002 with nearly 60,000 viable eggs taken. A new salmon ladder was constructed this fall, since the previous ladder, water pump and tractor were not available from the Corps of Engineers. The Glasgow chapter of Walleyes Unlimited cost-shared with FWP for the purchase of a used tractor needed to operate the water pump, and the Miles City Fish Hatchery provided the water pump. The ladder proved very successful, out capturing merwin traps used in previous spawning runs. Merwin traps had out-fished an old ladder since 1999. In addition to eggs taken at Ft. Peck, eggs were also obtained from North and South Dakota for stocking in spring, 2003. In addition to supplying eggs to Montana hatcheries, South Dakota will also rear fingerlings for planting into Ft. Peck during May or June.

FRESNO RESERVOIR AND TAILWATER FAS

Late spring rain and snow began the process of rebuilding this fishery after 4 years of devastating drought. Fresno was reduced to 4% of its volume by the end of the winter. Walleye abundance and condition had been declining rapidly, along with yellow perch numbers since 1997.

Condition of the walleye has improved due to the record low numbers present and little competition for food. Adult perch numbers have increased due to massive transplanting efforts. About 37,500 adult perch were transplanted in 2001 and another 18,500 in 2002. These came from Lake Mary Ronan, complements of Region 1 fisheries personnel. Though re-vegetated shorelines set the stage for good perch production, no water arrived in time for successful spawning, thus vegetation remained high and dry. The reservoir did fill in only eight days during June, but unfortunately too late to accommodate successful perch spawn. Since then, water levels have remained fair to good. Good shoreline vegetation is still present and excellent natural reproduction of perch, pike and walleye is expected next spring.

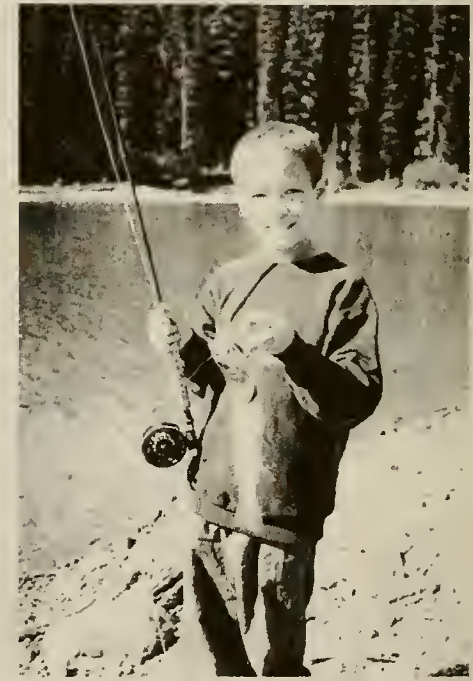
It is expected to take at least 3-4 years, with good water levels, to get the walleye/pike fishery on-line again. In the meantime, because predator levels are so low and the drought situation produced such a large number of unallocated trout around the state, it was decided that a unique opportunity was perhaps available to produce a short-term trout fishery. Trout and kokanee salmon were redirected to Fresno throughout the summer. A total of 176,000 four to eight inch rainbows and 93,000 kokanee were planted. A few trout and kokanee captured in the fall were in good shape and should provide some decent catches in 2003. No additional trout plants are scheduled for the future due to the expected arrival of large numbers of predators next year and the fact that no unallocated trout are anticipated to be available. Walleye fishing below the dam at the Tailwater Fishing Access Site has been fantastic, however, fishermen should be aware that the Bureau of Reclamation has closed the favorite fishing area immediately below the dam due to national security concerns.

NELSON RESERVOIR

Though also affected by the long drought, Nelson fared much better than Fresno in maintaining its fishery. Good catches were reported all year. The percentage of dead storage is much greater than that at Fresno and off-stream storage reduces turbidity levels. Fishermen found low-water boat launches on gravel bars and made due with what they had. Perch numbers are down but spawning vegetation is abundant and water levels are very good going into the winter. Winter fishing should be fair to good.

COW CREEK RESERVOIR

This reservoir was one of the few unaffected by the drought. Catches of walleye and channel catfish remain good and tiger muskies are being caught regularly. Though it's a ways out, over miles of gravel, this reservoir is a wonderful destination to fish for some unique species.



LITTLE WARM RESERVOIR

The reservoir regained some volume this year but numbers of walleye abundance is down. Good catches of tiger muskies were reported this year. FWP, with the help of the landowner, Steve Knudsen, installed a much needed boat ramp from WW II Air Force landing mat.

MISSOURI RIVER PADDLEFISH ABOVE FT. PECK

This was the fifth consecutive year of low flows, resulting in the majority of paddlefish not reaching the spawning grounds in time to do their thing. Snaggers did very well however, as the fish congregated near the bridge. A creel census was conducted on this fishery in the spring of 2002. The highest fishing pressure and highest harvest ever recorded, occurred this year.

BEAVER CREEK RESERVOIR

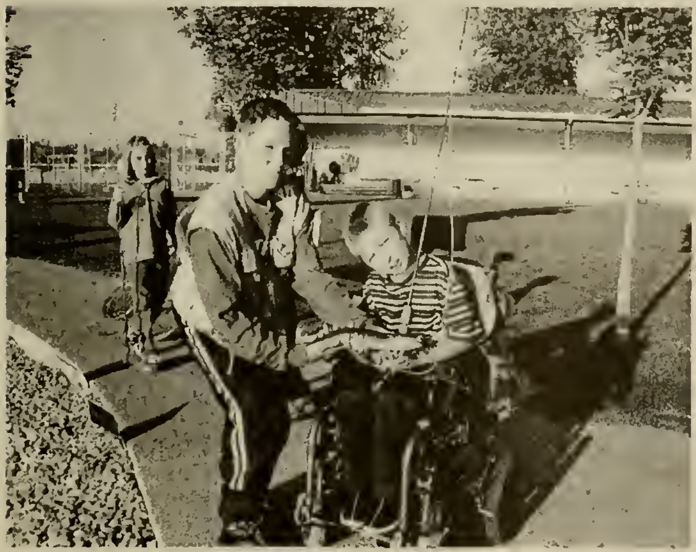
This multi-species water has provided one of the few places for good fishing opportunity in the drought stricken Havre area. Good catches of perch and trout were made throughout most of the year. Walleye fishermen are learning how to catch the chunky fish with regularity. Smallmouth bass are also providing a great deal of angling enjoyment. The pike population has been depressed for several years and has allowed for a resurgence of the trout fishery. The upper end of the reservoir is now well vegetated and will undoubtedly provide ample spawning conditions for pike and perch next spring. In recent years the popularity of ice fishing for perch has been on the rise. Large numbers of ice fishermen from around the state are expected to turn out for this winter's perch fishing. This reservoir now receives the second highest fishing pressure in the Region, only outdone by Ft. Peck Reservoir.

BEAR PAW LAKE

The long-term sucker reduction program is beginning to pay dividends. Growth and condition of stocked rainbow and cutthroat trout has improved substantially and the lake is once again a final destination point for thousands of fishermen. The reservoir ranks third in fishing pressure in Region Six. Smallmouth bass provide icing on the cake. Increased fishing pressure on this body of water necessitated a reduction in the trout limit from 5 to 3, which went into affect in March of 2002. Many upgrades to the site were done in the last year, with more planned. The reservoir is currently providing a refuge for many brook trout displaced from Beaver Creek due to the drought.

H.C. KUHR RESERVOIR

The drought all but dewatered this fine trout fishery. FWP seized the opportunity to kill off a remnant perch and sucker population, which would compete with trout in the future. Assuming the reservoir will be refilled next spring, plans are being made to restock with rainbow trout.



DRY FORK RESERVOIR

Appropriately named, this 300-acre reservoir went completely dry, eliminating a tremendous northern pike/perch fishery. Summer rains partially refilled the reservoir and a forage base of minnows, perch and crappie will be developed in 2003, with subsequent reintroduction of northern pike and walleye.

RESER RESERVOIR

The good precipitation experienced in the region seemed to miss this reservoir. Though lake levels are low, it is still home to large rainbow trout, a few large bass, many perch and some recent, illegally planted, northern pike. Ice fishing is expected to be good in early winter.

ROSS RESERVOIR

This beautiful mountain cutthroat fishery was rehabilitated in 2000 to rid it of suckers. It was closed in 2001 to allow fish to grow to acceptable size. Fishermen were not disappointed when the pond was reopened in May. Good catches of 13-15 inch cutthroat were enjoyed throughout the year and water levels remain good.

FABER RESERVOIR

This was another reservoir rehabilitated to remove suckers in 2000. It was restocked with fingerling rainbow trout in 2001. The fishery came into it's own this year, with large catches of very chunky 13-15 inch rainbows. Winter ice fishing should be great.

OTHER REGIONAL RESERVOIRS

Though a number of waters in the area have filled, many smaller reservoirs and streams in the western part of the region took a hard blow from the drought. Many streams have been almost completely dewatered. These reservoirs have surviving fish populations, but water levels are so low that a high number are expected to winterkill. Next spring, fishermen are advised to check with the Havre Area Resource Office on the status of reservoirs in the western portion of Region-6, before venturing long distances to fish.

LOWER MISSOURI/YELLOWSTONE RIVER PALLID STURGEON STUDY 2002

Efforts continue to recover the endangered pallid sturgeon on the lower Missouri and Yellowstone Rivers. During the last two weeks of April, the FWP Pallid Sturgeon Study crew, the Fort Peck Flow Modification Project crew, and the U. S. Fish and Wildlife Service (USFWS) combined efforts to capture adult pallid sturgeon for hatchery broodfish. All sampling was completed at or within a few river miles of the confluence of the Missouri and Yellowstone rivers. A total of 22 pallid sturgeon were captured, consisting of 16 different individuals. The recapture rate of previously marked pallid sturgeon was very high; only three of 16 fish were unmarked (81% recapture rate). This is much higher than the 50% recapture rate observed during the past several years in these netting efforts. Catch-per-unit-effort of pallid sturgeon from FWP's netting efforts was one pallid captured per 43.9 minutes drift time, or one pallid captured per 5.4 net drifts. Four pallid sturgeon (one female, three males) were transported to Miles City State Fish Hatchery, while 12 (three females, nine males) were transported to Garrison Dam National Fish Hatchery. Six family groups (unique male x female pairings) resulted from the broodstock collection efforts. The USFWS intends to allow the stocking of 1,700 hatchery-reared pallid sturgeon (HRPS) in the Lower Missouri and Yellowstone Rivers during 2003 from four of the six family groups.

FWP assisted with the tagging and stocking of HRPS. One batch of HRPS was tagged at the Miles City fish hatchery on July 16th and stocked on July 17th, while a second batch was tagged at the Garrison National Fish Hatchery on July 24th and stocked on July 25th. Stockings of both batches, which consisted of 2,904 individual HRPS, occurred at Intake, Sidney, Fairview, Culbertson, and Wolf Point.

FWP monitored seven sites on the Missouri River below Fort Peck Dam during June and July by netting, trawling, seining, larval fish sampling, and electrofishing. The purpose of the monitoring is to collect and establish baseline information relative to fish populations, water temperatures, and physical habitat of the river. This information will be used to evaluate the possible benefits to the fishery from increased stream flows and warmer water temperatures via the Fort Peck Spillway. It is also an attempt to induce pallid sturgeon movement up the Missouri River for spawning and recruitment to the wild population.

FWP estimated that there are only 178 wild pallid sturgeon remaining in the lower Missouri and Yellowstone Rivers' population, and no evidence of successful spawning or recruitment to the population has been documented for at least the past decade. Releases from the Fort Peck Spillway are an attempt to somewhat mimic the natural hydrograph of the Missouri River during the spring season; such spring flows have been halted since the construction of the Fort Peck Dam. Even if pallid sturgeon do not respond to the increased flows and warmer water temperatures by migrating upstream and spawning (perhaps because too few fish remain), other native species such as sauger, shovelnose sturgeon, paddlefish, goldeye, freshwater drum, various chub and other species should certainly benefit. A mini-release was scheduled during 2001, primarily to check the physical integrity of the spillway, and a more substantial release was scheduled to follow during late May and June of 2002. Unfortunately, low water levels in Fort Peck Reservoir have delayed the scheduled spillway discharges. A high snow pack and above-average spring precipitation is needed to recharge in order for spillway releases to occur.

FWP received cost-share funds from the Billings Chapter of Montana Walleyes Unlimited to purchase radio telemetry tags to be used in a Missouri River sauger telemetry study. We began radio transmitter implantation in September of 2002 and will continue our efforts until all 32 tags are implanted. The Fort Peck Flow Modification Project crew has agreed to track the tagged sauger. The information collected during this study will provide a basic understanding of sauger habitat use in this reach of the Missouri River, and will provide additional data to evaluate the Fort Peck Dam flow modifications.

REGION SEVEN - MILES CITY

YELLOWSTONE RIVER PADDLEFISH

During the 2002 paddlefish season, 711 paddlefish were checked by creel clerks at the Intake Fishing Access Site. The level of angler success was fairly good considering the drought conditions that continue to plague Montana streams and rivers. Paddlefish were present at Intake for most of the six-week season.

The Yellowstone/Missouri River paddlefish population is managed cooperatively by Montana and North Dakota. A harvest cap of 3,000 paddlefish per year has been in place since 1995, with each state allowed to harvest 1,500 fish. Ongoing research targeted at predicting the number of young paddlefish entering the fishery shows that fewer paddlefish are being recruited than are being harvested. In light of this new information, the harvest cap was reduced to 2,000 paddlefish per year, with each state being allowed 1,000 fish. The new harvest cap will be in place for the 2003 season. Since 1995, in part due to drought conditions, Montana has averaged 1,000 paddlefish per year harvested by anglers. During the same period of time, North Dakota has harvested 1,500 paddlefish per year on average.

TONGUE RIVER RESERVOIR

Tongue River Reservoir was short on water throughout 2002, but that did not seem to interfere with the recreational opportunities. The boat ramps were usable all summer long and there was an abundance of fish to be caught.

Crappie fishing was excellent with many limits of 8-9 inch fish being were taken. The prime crappie fishing occurs in late May and early June, but there was no poor time to fish for crappie in 2002. Surveys showed that crappie did spawn in 2002 with some success.

Walleyes are abundant in Tongue River Reservoir but can be challenging to anglers. Those in the know, however, seem to be able to produce walleyes on a steady basis. Walleye fry and fingerlings are both stocked annually in Tongue River Reservoir. Efforts are underway to evaluate the contribution of each to the fishery.

Smallmouth bass in the half pound range are very common, very catchable and a real thrill, especially for younger anglers. Larger smallmouth (one to four pounds) are present, but are not as easily fooled as the youngsters.

Other species of interest at the Tongue River Reservoir are catfish, bullheads and an occasional northern pike.

YELLOWSTONE RIVER

Fishing for sauger was excellent on the lower Yellowstone in 2002. Low water conditions made for longer periods of clear water, a key ingredient to sauger angler success. In addition, a warm, mild fall made fisherman boat access to fishing areas possible through November.

The field work for the graduate research project studying sauger movements, habitat use and angler harvest on the Yellowstone River was completed in the fall of 2002. The project data will be analyzed and reported in 2003.

While sauger is the primary fish species sought by anglers on the lower Yellowstone, other opportunities do exist. Channel catfish, shovelnose sturgeon and smallmouth bass are in abundance. Smallmouth bass are found primarily upstream of Miles City, while catfish and sturgeon are found throughout the lower Yellowstone.

Shovelnose sturgeon anglers should be aware that efforts are ongoing to recover the endangered pallid sturgeon on the Yellowstone River. Hatchery reared pallid sturgeon are being released and anglers need to start watching for them. The pallids are being marked on the underside of their snout with colored lines injected under the skin. Different color combinations are being used to denote family groups. If an angler catches a pallid sturgeon, note the color of the marks and report where and when the fish was caught to a department employee.

SOUTHEASTERN MONTANA PONDS

Many of the small ponds stocked by the Department in Region Seven have insufficient water to support fish at this time. Several reservoirs that have maintained fish populations for twenty years or more are in danger of succumbing to winter kill do to low water. A few of the larger, deeper reservoirs, such as, South Sandstone, Gartside and Castle Rock are providing good fishing for bass, walleye, northern pike and bluegill.

HELP STOP AQUATIC HITCHHIKERS

by John Wachsmuth
Montana Fish, Wildlife, & Parks Fisheries, Kalispell

Aquatic hitchhikers negatively impact recreational fishing in many ways. These nuisance species have and will continue to cause significant changes in aquatic ecosystems throughout the United States. Non-native fish like northern pike, lake trout, perch, and others have harmed native fish populations. Some exotic plants like Eurasian watermilfoil and hydrilla, which are not in Montana yet, and organisms like the New Zealand Mudsnail, limit access to good fishing spots and could potentially eliminate all fishing by taking over entire aquatic ecosystems. Whirling disease is having dramatic impacts on coldwater sport fisheries throughout North America. Whirling disease is produced and transmitted by a complex relationship involving a non-native parasite and a common aquatic worm that exclusively impacts coldwater sportfish, specifically trout and salmon.

Whenever you fish, you have the potential to introduce or transport unwanted species INTO or FROM the area you are fishing. The equipment, clothing, and boat used to fish have many places that a hitchhiker can hide. Unlike other pursuits, fishing is a very diverse sport with a wide range of equipment. It is important to become aware of this issue and your potential to transport aquatic hitchhikers, and take the necessary prevention steps.

- Remove mud, dirt, sand and all visible plants, fish and animals from: wading gear, nets, props, rods and reels, fishing line, lures, creels, buckets, boat and trailer, trolling motor, downriggers, anchors, ropes, and other items used in and around the water.
- Eliminate water from all equipment before transporting anywhere. If you wait until you get home to empty water, it could contaminate local waters or wetlands.
- Dry all equipment after use. If any area of any equipment, clothing, boat or trailer is moist, it can harbor a harmful hitchhiker for a long period of time. So even if it is a month before you go fishing again, you could be transporting a nuisance species.
- Do not release fish into a body of water unless they came out of that body of water.
- Do not use trout, whitefish, or salmon parts as cut bait.
- Dispose of fish entrails and skeletal parts properly.
- Rinse all wading gear with household chlorine when leaving a whirling disease infected waterbody. The following concentrations are recommended:
    *50% solution (1 part chlorine to 1 part water) - dip waders into a solution of the bleach or wipe or spray.
    *10% solution (1 part chlorine to 9 parts water) and soak your equipment for 10 minutes.
    *Rinse with clean water to complete the process. The use of bleach can shorten the life of your waders,etc.

By implementing these preventative measures, we can help prevent the spread of aquatic nuisance species in Montana and elsewhere. Let's all work together to protect our aquatic ecosystems for future generations to enjoy.

MONTANA'S RECORD-SETTING FISH (2001)

Species	Weight	Angler	Year	Location
Artic grayling	3.21 lbs.	Frederick C.Dahl	1994	Handkerchief Lake
Bigmouth buffalo	57.75 lbs.	Craig D. Grassel	1994	Nelson Reservoir
Black bullhead	2.33 lbs.	Darwin Zempel, Jr.	1994	Lower Flathead River
Black crappie	3.13 lbs.	Al Elser	1973	Tongue River Reservoir
Blue sucker	11.46 lbs.	Doug Askin	1989	Yellowstone River (near Miles City)
Bluegill	2.64 lbs.	Brent Fladmo	1983	Peterson's Stock Dam
Brook trout	9.06 lbs.	John R. Cook	1940	Lower Two Medicine Lake
Brown trout	29.00 lbs.	E. H. Peck Bacon	1966	Wade Lake
Bull trout	25.63 lbs.	James Hyer	1916	unknown
Burbot (ling)	17.08 lbs.	Jeff E. Iwen	1989	Missouri River (near Wolf Point)
Carp	40.20 lbs.	Jared Albus	1998	Nelson Reservoir
Channel catfish	27.17 lbs.	Ed Ellertson	1998	Castle Rock Reservoir
Chinook (king salmon)	31.13 lbs.	Carl L. Niles	1991	Fort Peck Reservoir
Cisco*	**1.75 lbs.**	**Curt Zimmerman**	**2001**	**Missouri River (below Ft Peck)**
Coho salmon	4.88 lbs.	Irven Stohl	1973	Fort Peck Reservoir
Cutthroat trout	16.00 lbs.	William D. Sands	1955	Red Eagle Lake
Flathead chub*	**0.59 lbs.**	**Douglas Jordan**	**2001**	**Thornton Pond**
Freshwater drum	20.44 lbs.	Richard C. Lee	1987	Fort Peck Reservoir
Golden trout	5.43 lbs.	Mike Malixi	2000	Cave Lake
Goldeye	3.18 lbs.	Don Nevrivy	2000	Nelson Reservoir
Green sunfish	0.56 lbs.	Roger Fliger	1991	Castle Rock Reservoir
Kokanee (salmon)*	**7.52 lbs.**	**Deed DeGolier**	**2001**	**Hauser Reservoir**
Lake trout	42.00 lbs.	Dave Larson	1979	Flathead Lake (east shore)
Lake whitefish	10.08 lbs.	Theo Hamby	1995	Lower St. Mary Lake
Largemouth bass	8.29 lbs.	Adam Nelson	1999	Many Lakes
Largescale sucker	5.06 lbs.	Loren Kujawa	1996	Kootenai River
Longnose sucker	3.27 lbs.	Ray Quigley	1988	Marias River
Mottled sculpin*	**0.05 lbs.**	**Brad Sullivan**	**2001**	**Belt Creek**
Mountain sucker**	**1.6 lbs.**	**Robert Garwood**	**2001**	**Beaver Creek Reservoir**
Mountain whitefish	5.09 lbs.	Mervin Frog Fenimore	1987	Kootenai River
Northern pike	37.50 lbs.	Lance Moyler	1972	Tongue River Reservoir
Northern squawfish	7.88 lbs.	Darrel Torgrimson	1991	Noxon Rapids Reservoir
Paddlefish	142.50 lbs.	Larry Branstetter	1973	Missouri River
Peamouth	0.74 lbs.	Angela Price	1999	Noxon Rapids Reservoir
Pumpkinseed	0.95 lbs.	Tim Colver	1985	Milnor Lake
Pygmy whitefish	0.18 lbs.	Frank Gamma	1999	Ashley Lake
Rainbow trout	33.1 lbs.	Jack Housel , Jr.	1997	Kootenai R. (David Thompson Bridge)
Rainbow-cutthroat hybrid	30.25 lbs.	Pat Kelly	1982	Ashley Lake
Redside shiner**	**0.1 lbs.**	**Josh Ahles**	**2001**	**Lost Lake**
River carpsucker	6.42 lbs.	Bill Odenbach	2000	Yellowstone River near Intake
Rock bass	.057 lbs.	Don Holzheimer	1989	Tongue River Reservoir
Sauger	8.81 lbs.	Gene Moore	1994	Fort Peck Reservoir
Shorthead redhorse sucker	4.68 lbs.	Ray Quigley	1985	Marias River near Loma
Shortnose gar	3.06 lbs.	John Johnson	1977	Fort Peck dredge cuts
Shovelnose sturgeon	13.72 lbs.	Sidney L. Storm	1986	Missouri River
Smallmouth bass*	**6.45 lbs.**	**Mike Otten**	**2001**	**Fort Peck Reservoir**
Smallmouth buffalo	32.63 lbs.	Richard Liesener	1994	Nelson Reservoir
Stonecat	0.54 lbs.	Dale Bjerga	1996	Milk River
Tiger muskellunge	27.00 lbs.	Dan Dupea	1994	Lebo Lake
Tiger trout	4.04 lbs.	Joe Sobczak	1997	Bear Lake
Utah chub	1.81 lbs.	Eugene Bastian	1992	Canyon Ferry Reservoir
Walleye	16.63 lbs.	Danny Spence	2000	Fort Peck Reservoir
White bass	2.25 lbs.	Vernon Pacovsky	1998	Missouri River
White crappie	3.68 lbs.	Gene Bassett	1996	Tongue River Reservoir
White sturgeon	96.00 lbs.	Herb Stout	1968	Kootenai River
White sucker	5.33 lbs.	Fred Perry	1983	Nelson Reservoir
Yellow bullhead	0.93 lbs.	Carl Radonski	1996	Tongue River Reservoir
Yellow perch	2.37 lbs.	Vernon Schmid	1988	Ashley Lake

*New Montana record for 2001

**New Species added